

CLAIMS

1. Apparatus (20) for determining a frequency offset error, comprising an input (24.1) for receiving a digitally coded frequency demodulated signal (demod_lp2), said frequency demodulated signal (demod_lp2) being processed by
 - digital means (25; 35; 41, 42.1) for performing a correlation in order to determine whether a correlation criterion is fulfilled, and
 - digital means (26; 36; 41, 42.2) for performing a minimum-maximum evaluation in order to determine whether a minimum-maximum criterion are fulfilled,said apparatus (20) further comprising digital processing means (27, 28; 37; 38; 41, 42.3) to calculate the current offset of the frequency demodulated signal (demod_lp2) and to cancel the current offset if both criteria are fulfilled.
2. The apparatus (20) of claim 1, wherein the digital means (35) for performing a correlation comprise a correlator (35.1), a peak detector (35.2) and a comparator (35.3).
3. The apparatus (20) of claim 1 or 2, wherein the digital means (36) for performing a minimum-maximum evaluation comprise two subtractors (36.1, 36.2) and two comparators (36.3, 36.4).
4. The apparatus (20) of claim 1, 2 or 3, wherein the digital processing means (37; 38) comprise an average detector (37.1), an offset register (37.2), and an offset compensator (38) to subtract the current offset stored in the offset register (37.2) from the frequency demodulated signal (demod_lp2).
5. The apparatus (20) of claim 1, wherein the digital means (25; 35) for performing a correlation and the digital means (26; 36) for performing a minimum-maximum evaluation both provide signals (ok_crit1; ok_crit2A, ok_crit2B) to the digital processing means (27, 28; 37; 38) in order to cause the digital processing means (27, 28; 37; 38) to cancel the current offset.

WO 2005/043852

PCT/IB2004/003562

13. The apparatus (20) of claim 4, wherein the average detector (37.1) is a sliding average detector that continuously generates a mean value of the frequency demodulated signal (demod_lp2).

5 14. Receiver (10) comprising an apparatus according to one or more of the preceding claims.

10 15. The receiver (10) of claim 14, comprising an analog front-end (10, 14, 15) and a digital back-end (16), said apparatus (20) for determining a frequency offset error being part of said digital back-end (16).

16. The receiver (10) of claim 14 or 15 being designed to receive and process FSK or GFSK modulated antenna signals.

15